

The Maple Tip Borer

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The maple tip borer (MTB), *Proteoterus aesculana*, is an insect pest that poses a serious threat to red maples in the nursery. This pest will damage and permanently disfigure maple trees by killing the developing shoots. Other species of *Proteoterus* can damage horsechestnuts and buckeyes (*Aesculus* spp.). If the central leader has been killed a forked leader may develop, ruining the quality of the plant. While the red maples are the predominant maple tree species at risk from *P. aesculana*, other maples (*Acer* spp.) can be attacked, including silver maples (*A. saccharinum*), sugar maples (*A. saccharum*), and possibly others.

It is the larva or caterpillar that kills the apical shoot, not the adult moth. Once the caterpillar is inside the maple shoot, it will feed, grow, and eventually pupate into an adult.

The adult MTB moth becomes active in early spring in Tennessee, between mid-March and April. The adult female moth will lay her eggs on maple tree branches near the buds, just before the buds are beginning to swell for bud break, leaves are starting to emerge, and shoots are beginning to elongate. After the eggs hatch, the young caterpillars will bore into the new elongating shoot and kill it (Image 1).

In May and June, after the adult moths emerge from the dead maple shoot tips, they may either lay more eggs on developing maple tree shoots or they may

seek out an overwintering location. Generally, the second does not cause as much damage as the first generation.

To prevent this pest from killing the central leader in maple trees, it is very important to time your insecticide sprays correctly. If insecticides are applied too early, the insect may not be present. If insecticides are applied too late, the caterpillar will have already burrowed into the maple shoot, killing it. The ideal time to spray is just as buds are beginning to break (Image 3) to when the developing shoots



Image 1. A red maple shoot tip killed by the maple tip borer.

have two pairs of leaves unfurling. This short window of time is often no more than a week. Insecticides containing Bifentherin are recommended for controlling the MTB. Some specific insecticides are Talstar, Onyx, and Onyx Pro.

If you missed the window for controlling the MTB and the central growing shoots have been killed, you can re-correct growth but you must act quickly. If a fork has started to develop, prune out the weaker, less straight fork, but leave a stub a few inches long. Then, in the late afternoon

when the shoots are at their most flexible and flaccid state, pull the remaining fork (new central leader) toward the pruned branch stub and secure it with masking tape or a stapled index card. It is important to straighten the forked leader as soon as possible before the soft flexible growth hardens and results in a permanent crooked central leader. The following winter, prune back the dead branch stub.



Image 2. The maple tip borer feeds, grows, and completes its lifecycle inside the protection of the hollowed out maple stem.



Image 3. A red maple bud just after bud break. This is the ideal time to spray for the maple shoot borer.

Hale, F. A. and Halcomb, M. 1995. Timing and Control of *Proteoteras aesculana* (Lepidoptera: Tortricidae) in Red Maple. SNA Research Conference – Vol. 40-1995.

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